

Business-conducted Mentor and Manager Training

A powerpoint template to review with
new apprentice mentors and managers

Key Roles

- Mentor – technical competencies
- Manager or supervisor – behavior competencies

Mentor

- Experienced welder that will provide on-the-job training for apprentice (*not manager, but group leader is OK*)
- Available to answer questions from apprentice
- May only work with one apprentice
- Qualified to determine proficiency in technical competencies
- Complete Career Academy of Pella mentor training
- Complete background check by Career Academy of Pella

Technical Competencies

- Gas Metal Arc Welding (GMAW/MIG) – 0.035” electrode
- Gas Metal Arc Welding (GMAW/MIG) – 0.045” electrode
- Blueprint Reading for Welders and Fitters
- Symbols for Welding
- Hoist and Rigging
- Lean Manufacturing
- Safety & Related Instruction
- Weld Inspection
- Weld Layout and Fabrication

Technical Competency Ratings

- Demonstrates Fundamentals – apprentice can perform the task with some coaching
- Proficient in Task – apprentice performs task properly and consistently
- Completion Date – date apprentice completes final demonstration of competency

GMAW with 0.035" electrode

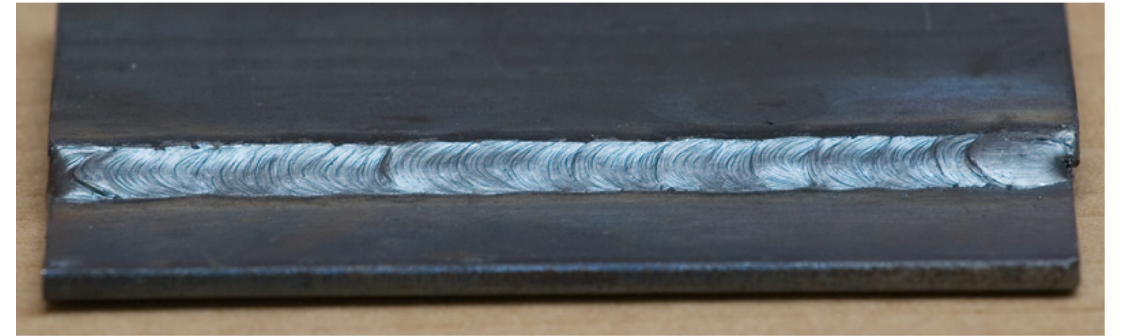
- Employer to provide whatever job specific training necessary to become successful
- Competency in the following
 - 3/16" (0.1"/0.2") horizontal fillet welds in T joint
 - 5/16" (0.3") horizontal fillet welds in lap joint
 - Square groove butt joint in flat position
 - Flare bevel groove T joint in flat and horizontal position
 - 3/16" (0.1"/0.2") horizontal fillet weld in T joint around pipe
 - 5/16" (0.3") horizontal fillet weld in T joint around pipe

GMAW with 0.045" electrode

- Employer to provide whatever job specific training necessary to become successful
- Competency in the following
 - 5/16" (0.2"/0.3") horizontal fillet welds in T joint (1 pass)
 - 3/8" (0.4") horizontal fillet welds in T joint (2 passes)
 - 1/2" (0.5") horizontal fillet weld in T joint (3 passes)
 - 5/16" (0.2"/0.3") horizontal fillet weld in T joint around pipe
 - Single bevel, vee groove, and flare bevel groove welds

Weld Types

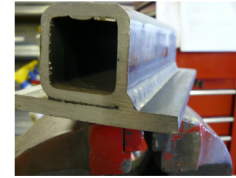
Fillet Weld, T Joint

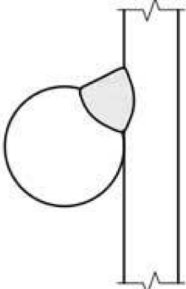



Fillet weld, lap joint

Weld Types

Flare bevel groove, T joint (horizontal)



9	Flare bevel		
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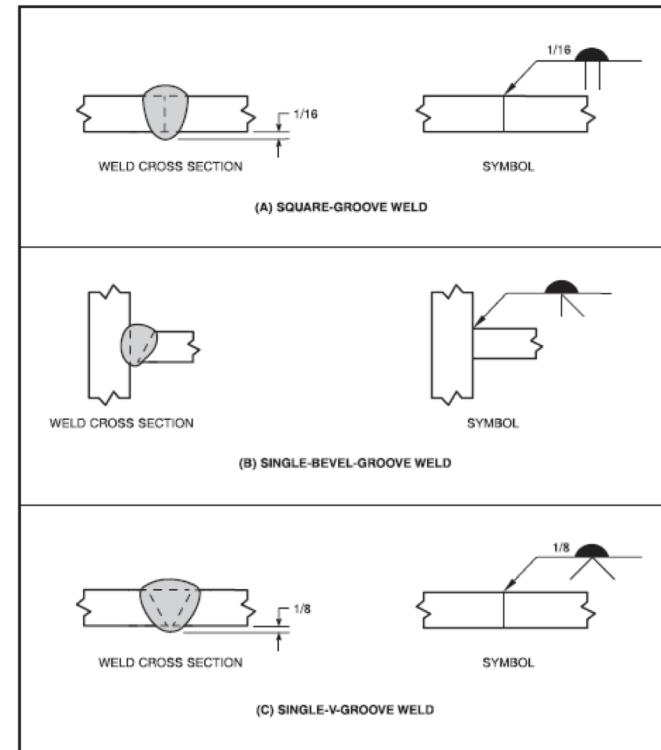
Flare bevel groove, T joint (flat)

Weld Types

Fillet weld T joint around pipe



Groove welds



Blueprint Reading

- Classroom (if available) or field training
- Document field training, demonstrate fundamentals, and proficiency

Welding Symbols

- Classroom (if available) or field training
- Document field training, demonstrate fundamentals, and proficiency

Hoist and Rigging

- Provide this training after apprentice turns 18 years old
- 40 hours (approximate) – *training and experience combined*
- Classroom (if available) or field training
- Safety procedures
- Use of straps, cables, chains
- Use of lifting devices
- Estimation of load weights and center of gravity
- Moving, loading and manipulation of loads

Jigs and Fixtures

- Part of welding hours
- Verify shape and size of parts meet blueprints
- Assemble metal parts in jigs and fixtures
- Tack parts together
- Document field training, demonstrate fundamentals, proficiency

Safety

- Job safety analysis or job hazard analysis
- Hazard communication
- Employer safety program training
- Document field or classroom training, demonstrates fundamentals, proficiency

Lean Manufacturing

- Classroom or field training
- Principles of 5S
- Weld to takt time (*this will qualify for most of the time*)
- One or more kaizen events

Weld Inspection

- Classroom or field training
- Visual examination of surfaces prior to welding per company standards
- Visual examination of completed welds for acceptance based on company acceptance criteria standards
- Identify common weld discontinuities, causes, and how to prevent them from occurring

Weld Layout and Fabrication

- Classroom or field training
- Layout and tack weldments using a layout table or without fixtures
- Demonstrate proficiency in the use of tape measure, straight edge, square, clamps, and other layout tools

Manager or Supervisor

- Welding experience is not a requirement but certainly helps
- Available to answer questions from apprentice
- May supervise multiple apprentices
- Qualified to determine proficiency in behavioral competencies
- Recommended to complete Career Academy of Pella mentor training
- No background check by Career Academy of Pella is required

Behavioral Competency Ratings

- Exceeds targets – 4
- Consistently achieves targets – 3
- Meets some targets – 2
- Not meeting targets – 1
- Not applicable – N/A

Apprentices must achieve a “3” rating in all categories to have a successful completed apprenticeship

Behavioral Competencies

- Teamwork
- Communication
- Integrity
- Respect
- Customer focus
- Attendance
- Work ethic

Behavioral Competencies Review Frequency

- End of summer employment
- End of first semester senior year
- End of second semester senior year
- As part of normal team member review cycle post high school graduation throughout completion of apprenticeship